Journal of Clinical Oncology, 2016 ASCO Annual Meeting (June 3-7, 2016).
Vol 34, No 15_suppl (May 20 Supplement), 2016: 4008

PET-PANC: Multi-centre prospective diagnostic accuracy and clinical value trial of FDG PET/CT in the diagnosis and management of suspected pancreatic cancer.

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Abstract Disclosures

Abstract

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Background: Pancreatic cancer diagnosis and staging is challenging. FDG PET/CT adds anatomic localization to functional data. The aim of this study was to determine the impact of FDG PET/CT in addition to standard diagnostic workup in patients with suspected pancreatic cancer. **Methods:** Patients with suspected pancreatic cancer underwent FDG PET/CT following multi-detector CT (MDCT). FDG PET/CT scans were reviewed and quality assured centrally. Diagnosis, staging and planned management were recorded before and after FDG PET/CT. Reference standard was histology or clinical outcome. Primary outcome measure was incremental diagnostic value of FDG PET/CT in addition to MDCT. Sample size was 500 patients, following interim analysis; 80% power to detect increase in sensitivity from 81% to 90% and specificity from 66% to 80%. Secondary outcome measures were changes in diagnosis, staging, and management; cost effectiveness was estimated. **Results:** Between January 2011 and April 2013 589 patients with suspected pancreatic cancer underwent MDCT and FDG PET/CT in 18 UK centres. 550 patients had complete data and in range FDG PET/CT. 261 patients (47%) had pancreatic ductal adenocarcinoma (PDAC). For the diagnosis of PDAC, both sensitivity (92.7% [95% CI 89.6%, 95.9%] compared to 88.5% [95% CI 84.6%, 92.4%], p=0.010) and specificity (75.8% [95% CI 70.8%, 80.7%] compared to 70.6% [95% CI 65.3%, 75.8%] p=0.023) were significantly higher for FDG PET/CT than MDCT. FDG PET/CT correctly changed the staging of PDAC in 56 patients (14%) (p=0.001). FDG PET/CT influenced management in 250 (45%) of patients. FDG PET/CT stopped futile resection in 58 patients (20%) due to have surgery. FDG PET/CT was associated with a QALY gain of 0.0157 (95% CI -0.0101, 0.0430) and cost saving of £645 (95% CI -£1314, £2743). In the base case model FDG PET/CT dominated MDCT alone and is likely to be cost effective for the UK NHS. **Conclusions:** FDG PET/CT provided significant incremental diagnostic benefit in the diagnosis of pancreatic cancer and had a significant influence on the staging and management of patients. FDG PET/CT was cost effective at current reimbursement rates for FDG PET/CT to the UK NHS. Clinical trial information: 73852054.